

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

1. **(Currently Amended)** A trap vector comprising containing a *loxP* sequence and a mutant *loxP* sequence,

wherein the *loxP* sequence comprises in sequential order composed of inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; and in this order,

the mutant *loxP* sequence comprises a sequence in which a part of said *loxP* sequence being a mutant *loxP* wherein a part of said inverted repeat sequence 1 of *loxP* is mutated.

2. **(Original)** The trap vector of claim 1, wherein the mutant *loxP* is *lox71*.

3. **(Currently Amended)** The trap vector of claim 2, wherein *lox71* ~~is as shown in SEQ ID NO: 1.~~ comprises a nucleotide sequence in SEQ. ID. NO.:15.

4. **(Currently Amended)** A trap vector comprising containing a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order composed of inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; and in this order,

the mutant *loxP* sequence comprises a sequence in which said *loxP* sequence being a mutant *loxP* wherein a part of said inverted repeat sequence 2 of *loxP* is mutated.

5. **(Original)** The trap vector of claim 4, wherein the mutant *loxP* is *lox66*.
6. **(Currently Amended)** The trap vector of claim 5, wherein *lox66* ~~is as shown in SEQ ID NO: 2.~~ comprises a nucleotide sequence shown in SEQ. ID. NO.:16.
7. **(Currently Amended)** A trap vector selected from the group consisting of the following (a) to (i) ~~(h)~~:
- (a) SP-SA-*lox71*-IRES-M-*loxP*-PV-SP₁;
 - (b) SP-*lox71*-IRES-M-*loxP*-PV-SP₁;
 - (c) SA-*lox71*-IRES-M-*loxP*-pA-PV-SP₁;
 - (d) SA-*lox71*-IRES-M-*loxP-puro*-pA-PV-SP₁;
 - (e) *lox71*-M-*loxP*-pA-*lox2272*-PV-*lox511*₁;
 - (f) *lox71*-IRES-M-*loxP*-pA-*lox2272*-PV-*lox511*₁;
 - (g) (*lox71*-integrated SA)-M-*loxP*-pA-*lox2272*-PV-*lox511*₁;
 - (h) (*lox71*-integrated SA)-IRES-M-*loxP*-pA-*lox2272*-PV-*lox511*₁; and
 - (i) ~~(*lox71*-integrated SA)-M-*loxP*-pA-*lox2272*-promoter-M-*lox511*-SD,~~ (*lox71*-integrated SA)-M-*loxP*-pA-*lox2272*-promoter-M-*lox511*-SD;

wherein SP represents any sequence; SA represents a splice acceptor; SD represents a splice donor; IRES represents an internal ribosomal entry site; M represents a marker gene; *puro* represents puromycin resistance gene; pA represents a poly(A) sequence; and PV represents a plasmid vector.

8. **(Original)** The trap vector of claim 7, wherein the plasmid vector is any one selected from the group consisting of pBR, pUC, pSP and pGEM.

9. **(Currently Amended)** A vector generated from recombination between:

(a) a trap vector comprising a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part said inverted repeat sequence 1 of *loxP* is mutated; ~~the trap vector of claim 1 and~~

(b) a trap vector comprising a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part of said inverted repeat sequence 2 of *loxP* is mutated ~~the trap vector of claim 4.~~

10. **(Currently Amended)** The vector of claim 9, wherein said vector does not undergo recombination with another ~~other~~ *loxP*.

11. **(Currently Amended)** A method of gene trapping, comprising the steps of:
introducing the trap vector of any one of claims 1 to 8 into embryonic stem cells;
culturing the embryonic stem cells;
selecting those cells which exhibit a pattern of single copy integration of the trap vector;
and
isolating the trapped gene.

12. **(Original)** Embryonic stem cells into which the trap vector of any one of claims 1 to 8 is introduced.

13-18. **(Canceled)**

19. **(New)** A method of gene trapping, said method comprising the steps of:

introducing into embryonic stem cells:

(a) a trap vector comprising a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence, and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part said inverted repeat sequence 1 of *loxP* is mutated; and

(b) a trap vector comprising a *loxP* sequence and a mutant *loxP* sequence, wherein the *loxP* sequence comprises in sequential order inverted repeat sequence 1, a spacer sequence and inverted repeat sequence 2; wherein the mutant *loxP* sequence comprises a sequence of which a part of said inverted repeat sequence 2 of *loxP* is mutated;

culturing the embryonic stem cells;

selecting those cells which exhibit a pattern of single copy integration of the trap vector;

and

isolating the trapped gene.